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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ZULFIQUAR SAYEED

Appeal 2008-2986
Application 09/826,399
Technology Center 2600

Decided: October 20, 2008

Before MAHSHID D. SAADAT, ROBERT E. NAPPI, and CARLA M. KRIVAK, *Administrative Patent Judges*.

KRIVAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1-4, 6, and 9.[1] We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

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[1] As noted in the Final Office Action mailed April 21, 2005, claims 10-17 are allowed and claims 5, 7, and 8 are objected to but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening limitations.

STATEMENT OF CASE

Appellant's claimed invention relates to wireless communication systems, and particularly, to a method for automatic gain control in an orthogonal frequency division multiplexing (OFDM) communication system or another communication system (Spec. 1).

Independent claim 1, reproduced below, is representative of the subject matter on appeal.

> 1. In a communication receiver, a method of adjusting the gain of an IF amplifier, said method comprising the steps of:
>
> monitoring a gain adjustment of an RF amplifier in said communication receiver; and
>
> adjusting said IF gain value based on said monitored RF amplifier gain adjustment by an amount approximately opposite to said RF gain value.

REFERENCES

Marchok	US 5,790,514	Aug. 4, 1998
Earls	US 6,532,358 B1	Mar. 11, 2003 (filed Aug. 3, 2000)
Okamoto	US 6,614,855 B1	Sep. 2, 2003 (filed May 11, 1999)
Baldwin	US 6,735,422 B1	May 11, 2004 (filed Oct. 2, 2000)

Claim 1 stands rejected under 35 U.S.C. § 102(e) as anticipated by Earls.

Claims 2, 4, and 6 stand rejected under 35 U.S.C. § 103(a) as obvious over Earls and Okamoto.

Claims 3 stands rejected under 35 U.S.C. § 103(a) as obvious over Earls and Marchok.

Claims 9 stands rejected under 35 U.S.C. § 103(a) as obvious over Earls, Okamoto, and Baldwin.

Appellant asserts that Earls does not teach the feature in claim 1 of adjusting an IF gain value based on a monitored RF amplifier gain adjustment by an amount approximately opposite the RF gain value (App. Br. 4; Reply Br. 3).[2] Appellant further asserts that the remaining references also do not disclose this feature (App. Br. 4-5)

ISSUES

Did the Examiner err in his interpretation of how IF gain is adjusted in Earls?

Did the Examiner err in finding claims 2-4, 6, and 9 obvious over various combinations of Earls with the remaining cited references?[3]

FINDINGS OF FACT

1. Appellant's claimed invention relates to a method for adjusting the gain of an IF amplifier in a communication receiver. The method includes monitoring a gain adjustment of an RF amplifier and adjusting the IF gain base on the monitored RF gain such that the adjustment amount is approximately opposite that of the RF gain value (cl. 1).

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[2] Throughout this opinion we reference the Corrected Appeal Brief mailed September 10, 2007.

[3] Although Appellant appeals the rejection of claims 1-9 (App. Br. 1), Appellant only argues the rejection of claims 1 and 4 (App. Br. 2 and 3), the claims depending therefrom standing or falling with claims 1 and 4.

2. Earls teaches overload distortion protection for a wideband receiver that periodically polls the output power from the IF detector 24 with the wideband detetector 26, 28 power and compares the two (col. 3, ll. 43-49). If the comparison is yes, the current wideband and IF gain settings are compared (col. 3, ll. 53-54). The respective gains of the wideband and IF amplifiers are then re-optimized by increasing the IF gain by the specified dBm and decreasing the wideband gain by the specified dBm (col. 3, ll. 59-64).

PRINCIPLES OF LAW

Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983), it is only necessary for the claims to "'read on' something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

The terminology in a pending application's claims is to be given its broadest reasonable interpretation (*see In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)). Moreover, anticipation by a prior art reference does not require either the inventive concept of the claimed subject matter or the recognition

of inherent properties that may be possessed by the prior art reference. *See Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d at 633.

Obviousness

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. at 17. "[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If the Examiner's burden is met, the burden then shifts to the Appellants to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *Id.*

ANALYSIS

Anticipation

The Examiner rejected claim 1 under 35 U.S.C. § 102(e) as anticipated by Earls. The Examiner contends that Earls teaches all the features of claim 1. Particularly, Earls teaches "increasing the IF gain by the specified dBm and decreasing the wideband (RF) gain (or increasing the RF gain by the specified dBm and decreasing the IF gain) by the specified dBm based on the comparison (monitor) result of the RF amplifier gain and the IF amplifier gain (Col. 3, lines 47-64) to a threshold value (emphasis omitted)." (Ans. 9).

Appellant asserts that claim 1 recites adjusting the IF gain value by an amount approximately opposite to the RF gain value (c1. 1), which is different from Earls' teaching of increasing the IF gain by a specified dBm and decreasing the wideband gain by the specified dBm (App. Br. 4). We do not entirely agree. Claim 1 merely recites that the IF gain is adjusted "by an amount approximately opposite to said RF gain." That is, if the IF gain in Appellant's invention is increased the RF gain must be decreased, and if the IF gain is decreased the RF gain must be increased (FF 1). Earls teaches applying an increase or decrease to the IF and RF gains in an opposite manner (i.e., increasing the IF gain by a specified amount and decreasing the RF gain by that same amount). Thus, claim 1 is written broadly enough to read on Earls' teachings.

However, the Examiner has not considered the language in claim 1 that the IF gain value adjustment is based on the monitored RF amplifier gain adjustment. That is, the RF gain is monitored and then the IF gain is adjusted according to the monitored RF gain. In contrast, Earls teaches that the IF gain is increased by a specified gain and the wideband gain is decreased by the specified gain (col. 3, ll. 59-62). Thus, in Earls, there is no monitoring of the RF gain rather, the gain of the RF amplifier is decreased and the gain of the IF amplifier is increased depending on the specified dBm (col. 3, ll. 59-62; FF2) (implying the adjustment to the IF and RF gains are performed at the same time). This is not the same as monitoring the RF gain and then adjusting the IF gain based on that monitored amount, as recited in claim 1. Thus, Earls does not teach the method recited in claim 1.

Since Earls does not teach every feature of claim 1, Earls does not anticipate claim 1.

Obviousness

The Examiner rejected claims 2-4, 6, and 9 over various combinations of Earls, Okamoto, Marchok, and Baldwin. These claims depend directly or indirectly from claim 1. Because Earls does not anticipate claim 1 for the reasons we discussed above, the rejection of the remaining claims cannot be sustained as none of those references overcomes the defects of Earls.

Thus, we find claims 2-4, 6, and 9 not obvious over the collective teachings of the cited prior art.

CONCLUSION

We therefore conclude that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 102(e) and claims 2-4, 6, and 9 under 35 U.S.C § 103(a).

DECISION

The Examiner's decision in rejecting claims 1-4, 6, and 9 is reversed.

REVERSED

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